

Notice of Allowability

Application No.

10/822,014

Examiner

John B. Vigushin

Applicant(s)

DRISCOLL ET AL.

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 12 Jul 2006.
2. ☒ The allowed claim(s) is/are 1,3-21 and 23-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. The present Office Action is responsive to Applicant's Amendment filed July 12, 2006. The Examiner acknowledges the amendments to the Specification and Claims 1, 3, 21 and 23, and the cancellation of Claims 2, 22 and 32-34. Claims 1, 3-21 and 23-31 remain pending in the instant amended Application.

Allowable Subject Matter

2. Claims 1, 3-21 and 23-31 have been allowed.

3. The following is an examiner's statement of reasons for allowance:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

None of the keep-out zones defined in the prior art cited below, in section 5, comprise the structural elements of the keep-out zones required by the previously-indicated allowable subject matter of the last 10 lines of amended base Claim 1 and the previously-indicated allowable subject matter of the last 11 lines of amended base Claim 21.

4. Claims 1, 3-11, 20, 19, 12-18, 21 and 23-31 have been renumbered as Claims 1-29, respectively, for publication in the issued patent.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Xie et al. (US 7,045,890 B2) discloses keep-out zone 1010 corresponding to the heat-spreader footprint 930 and flip-chip component 120 mounted outside the keep-out zone 1010; i.e., between the two defined keep-out areas corresponding to footprint 930 (Fig. 10; col.7: 27-37).

b) Duley (US 7,005,586 B1) discloses a keep-out zone on power board 16 defined by the area covered by the heat sink 20 which is approximately a little more than the rectangular area portion of power board 16 within the region determined by the four fastener holes 44 that bolt or screw the heat sink 20 to the power board 16 (Figs. 1 and 2; col.9: 18-28). The VRM 28 and connectors 24A,B are arranged on power board 16 outside the keep-out zone defined by the heat sink 20 (col.7: 64-col.8: 5, col.8: 49-52 and col.6: 25-35).


c) Kledzik et al. (US 7,102,892 B1) discloses a keep-out zone defined on circuit board 29 between struts 25 and 27 of carrier platform 23, within which keep-out zone and in the space thereby provided below the surface of carrier platform 23, is mounted an IC chip 52 (Figs. 1 and 2; col.3: 24-27 and 40-47).

d) Kim (US 7,061,087 B2) discloses a stacked circuit board arrangement wherein the bumps function as spacers and define laterally offset keep-out zones such that space is provided on the remaining laterally offset portions of the stacked boards for mounting one or more chips (Figs. 4 and 6; col.3: 60-col.4: 10).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John B. Vigushin
Primary Examiner
Art Unit 2841

jbv
September 14, 2006